Amendments to the Claims:

1. (Currently amended) A vaccine for treating or protecting against pneumococcal infection comprising a polypeptide in a pharmaceutically acceptable carrier wherein said polypeptide comprises a variant of SEQ ID NO:4, said variant comprises at least one to 15 amino acid substitutions ~~and comprises amino acids 331 to 339, 355 to 365, 367 to 374, 379 to 389 and 409 to 427 of SEQ ID NO: 40~~, said polypeptide does not bind to choline, said polypeptide exhibits a tertiary structure as found in a native, full-length CbpA polypeptide, and the polypeptide content of said vaccine being in an amount effective for treating or protecting against pneumococcal infection.

2. (Original) The vaccine of claim 1, wherein said polypeptide interacts with an antibody, said antibody is capable of interacting with domain C of the full-length CbpA polypeptide.

3. (Original) The vaccine of claim 1, wherein said polypeptide comprises a C domain identical to a polypeptide that is a competitive inhibitor of bacterial adhesion of pneumococcal.

4. (Original) The vaccine of claim 1, wherein said amino acid sequence is identical to the amino acid sequence of an N-terminal choline binding protein.

5. (Original) The vaccine of claim 1, wherein said vaccine when administered elicits an antibody that protects against pneumococcal infection in a mammal.

6. (Original) The vaccine of claim 5 wherein said mammal is a human.

7. (Original) The vaccine of claim 1 wherein said vaccine further comprises an adjuvant.

8. (Original) The vaccine of claim 1, wherein said variant of SEQ ID NO:4 comprises amino acids 331 to 339, 355 to 365, 367 to 374, 379 to 389 and 409 to 427 of SEQ ID NO: 40.

9. (Original) The vaccine of claim 8, wherein said polypeptide interacts with an antibody, said antibody is capable of interacting with domain C of a full-length CbpA polypeptide

10. (Original) The vac cine of claim 8, wherein said polypeptide comprises a C domain identical to a polypeptide that is a competitive inhibitor of bacterial adhesion of pneumococcal.

11. (Original) The vac cine of claim 8, wherein said amino acid sequence is identical to the amino acid sequence of an N-terminal choline binding protein.

12. (Original) The vac cine of claim 8, wherein said vaccine when administered elicits an antibody that protects against pneumococcal infection in a mammal.

13. (Original) The vac cine of claim 12 wherein said mammal is a human.

14. (Original) The vac cine of claim 8 wherein said vaccine further comprises an adjuvant.

15. (Currently amended) A ~~The~~ vaccine ~~of claim 1, wherein said polypeptide comprises SEQ ID NO:4.~~ for treating or protecting against pneumococcal infection comprising a polypeptide in a pharmaceutically acceptable carrier wherein said polypeptide comprises SEQ ID NO:4, said polypeptide does not bind to choline, said polypeptide exhibits a tertiary structure as found in a native, full-length CbpA polypeptide, and the polypeptide content of said vaccine being in an amount effective for treating or protecting against pneumococcal infection.

16. (Currently amended) A vaccine for treating or protecting against pneumococcal infection comprising a polypeptide in a pharmaceutically acceptable carrier wherein said

polypeptide comprises a variant of SEQ ID NO:40, said variant comprises at least one to 15 amino acid substitutions ~~and comprises amino acids 331 to 339, 355 to 365, 367 to 374, 379 to 389 and 409 to 427 of SEQ ID NO: 40~~, said polypeptide does not bind to choline, said polypeptide exhibits a tertiary structure of a native, full-length CbpA polypeptide, and the polypeptide content of said vaccine being in an amount effective for treating or protecting against pneumococcal infection.

17. (Original) The vac cine of claim 16, wherein said polypeptide interacts with an antibody, said antibody is capable of interacting with domain C of the full-length CbpA polypeptide.

18. (Currently amended) The vaccine of claim 16, wherein said polypeptide comprises a C domain identical to a ~~a to~~ polypeptide that is a competitive inhibitor of bacterial adhesion of pneumococcal.

19. (Original) The vac cine of claim 16, wherein said amino acid sequence is identical to the amino acid sequence of an N-terminal choline binding protein.

20. (Original) The vac cine of claim 16, wherein said vaccine when administered elicits an antibody that protects against pneumococcal infection in a mammal.

21. (Original) The vaccine of claim 20, wherein said mammal is a human.

22. (Original) The vaccine of claim 16, wherein said vaccine further comprises an adjuvant.

23. (Original) The vac cine of claim 16, wherein said polypeptide comprises amino acids 327 to 433 of SEQ ID NO:40.

24. (Original) The vaccine of claim 16, wherein said variant of SEQ ID NO:40

comprises amino acids 331 to 339, 355 to 365, 367 to 374, 379 to 389 and 409 to 427 of SEQ ID NO: 40.

25. (Original) The vaccine of claim 24, wherein said polypeptide interacts with an antibody, said antibody is capable of interacting with domain C of the full-length CbpA polypeptide

26. (Original) The vaccine of claim 24, wherein said polypeptide comprises a C domain identical to a polypeptide that is a competitive inhibitor of bacterial adhesion of pneumococcal.

27. (Original) The vaccine of claim 24, wherein said amino acid sequence is identical to the amino acid sequence of an N-terminal choline binding protein.

28. (Original) The vaccine of claim 24, wherein said vaccine when administered elicits an antibody that protects against pneumococcal infection in a mammal.

29. (Original) The vaccine of claim 28, wherein said mammal is a human.

30. (Original) The vaccine of claim 24, wherein said vaccine further comprises an adjuvant.

31. (Canceled) ~~A vaccine for treating or protecting against pneumococcal infection comprising a polypeptide in a pharmaceutically acceptable carrier wherein said polypeptide comprises a variant of SEQ ID NO:40 comprising about amino acids 327 to amino acid 433 of SEQ ID NO:40, said variant comprising at least one to 15 amino acid substitutions, said polypeptide does not bind to choline, said polypeptide exhibits a tertiary structure as found in a native, full-length CbpA polypeptide, and the polypeptide content of said vaccine being in an amount effective for treating or protecting against pneumococcal infection.~~

32. (Currently amended) The vaccine of claim 23 ~~31~~, wherein said polypeptide interacts with an antibody, said antibody is capable of interacting with domain C of the full-length CbpA polypeptide.

33. (Currently amended) The vaccine of claim 23~~31~~, wherein said polypeptide comprises a C domain identical to a polypeptide that is a competitive inhibitor of bacterial adhesion of pneumococcal.

34. (Currently amended) The vaccine of claim 23~~31~~, wherein said amino acid sequence is identical to the amino acid sequence of an N-terminal choline binding protein.

35. (Currently amended) The vaccine of claim 23~~31~~, wherein said vaccine when administered elicits an antibody that protects against pneumococcal infection in a mammal.

36. (Original) The vaccine of claim 35 wherein said mammal is a human.

37. (Currently amended) The vaccine of claim 23~~31~~ wherein said vaccine further comprises an adjuvant.